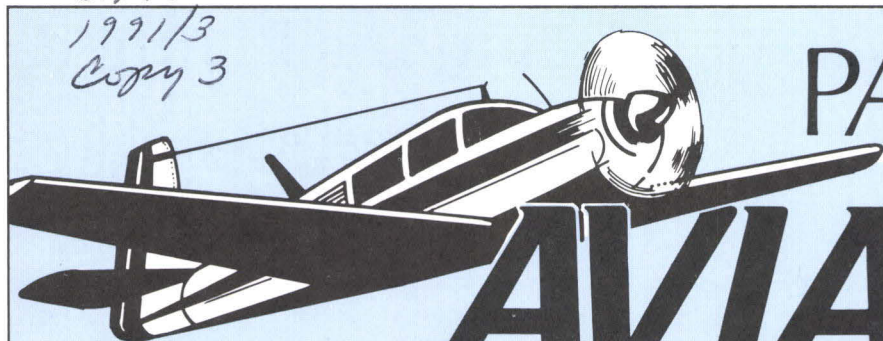


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PALMETTO

AVIATION

Volume 43, Number 3

Published by the S.C. Aeronautics Commission

March, 1991

Bigger and Better, American Airlines Returns to SC

After more than a month absence, American Airlines and associate regional airline American Eagle have returned to South Carolina.

On February 6, American Airlines announced it would resume cancelled flights from Greenville/Spartanburg, Charleston and Columbia in March.

Prior to pulling out of the Greenville/Spartanburg Airport, American had four daily jet flights, now there will be six daily. There will be three flights daily to Raleigh/Durham and three to Nashville. Until the second of March when the jets are ready for service, the six flights will be handled by American Eagle com-

Mark Nickels of American Airlines announces the comeback of the airlines with improved service to the Hilton Head Airport.



muter planes. The Nashville flights are new routes.

"We think it's an excellent time to act in this area," said Cindy Martin, area sales Manager for American Airlines. "Greenville/Spartanburg is a big commercial area

with many corporations moving here. We have high hopes for the area."

Following the announcement to move back to Greenville, American had another business plan to
See American Airlines, Page 6

Breakfast Club Has More Than Hot Coffee

Gerald Ballard, president of the SC Breakfast Club, piles his plate high.

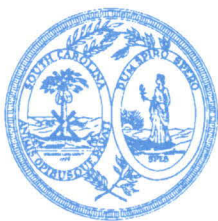


It was just past 8 a.m. on a cold, blustery Sunday morning. Xen Motzinger and Jack Hilton were unloading the cook trailer looking for electrical outlets getting ready to fix breakfast for one of their favorite groups, the South Carolina Breakfast Club.

There are many aviation organizations in the world, but none can compare to the Breakfast Club. Now over 50 years old, this organization is a mainstay of South Carolina aviation. Recently the S.C. Aeronautics Commission hosted a Breakfast Club meeting at the Wilder Hangar Facility with more than 180 people attending.

There were handshakes, hugs, and cups of hot coffee, lots of talking, laughing and socializing. And, since there's no member-

See Breakfast Club, Page 6 for more photos



PALMETTO AVIATION is an official publication of the South Carolina Aeronautics Commission. It is designed to inform members of the aviation community, and others interested in aviation, of local developments in aviation and aviation facilities, and to keep readers abreast of national and international trends in aviation.

The Aeronautics Commission is a state agency created in 1935 by the South Carolina General Assembly to foster and promote air commerce in the state.

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50th Year Reunions Planned

Hawthorne School of Aeronautics Plans Golden Celebration for April

For many people who learned to fly in South Carolina, the name "Bevo" Howard is synonymous with aviation.

"Bevo" taught flying in Orangeburg, at Hawthorne School of Aeronautics beginning in April, 1941, through 1945.

Now 50 years later, a Golden Anniversary Reunion is planned for Hawthorne School of Aeronautics April 25-28, at the Orangeburg Holiday Inn.

The agenda is filled with portrait and plaque dedications, social hours and a special 50th Reunion Banquet. In addition a historical marker unveiling is being planned for a very special ceremony on April 26.

The response, so far, has been phenomenal with an expected attendance of 250, including 40 former French Cadets many of whom have not been in Orangeburg in 45 years.

B-26 Marauders Reunion Slated for April 18-21

This year marks the 50th anniversary of the delivery of the B-26 to the U.S. Army Air Corps, and as such, the B-26 Marauder Historical Society will be sponsoring a gala April 18-21 in Baltimore, MD.

When the B-26, a World War II medium bomber, appeared on the scene in 1941 it was very special. Historically, it compiled a record unsurpassed in WWII combat.

For those pilots, aircraft mechanics and aircraft technicians, or anyone who had something to do with the plane, it holds some very

Also a group of PT-17s and AT-6s from North Carolina will be flying in to help celebrate the Golden Reunion. From 1941 to 1945, over 4,000 Cadets from the Army Air Corps and over 1600 French Cadets were trained at Hawthorne in the Stearman PT-17 before participating throughout the world in World War II. Hawthorne's Military Designation was 58th AAFSTD (P).

Since that time, the former instructors have held a reunion in Orangeburg each year; the former French cadets formed an association and have visited Orangeburg several times, while American instructors have met in Le Borget at the International Air Show.

If you want to attend the Reunion or make a donation toward the cost of the historical marker, contact Harley Cunningham, P.O. Box 826, North Myrtle Beach, SC 29597 or call (803) 272-6024.

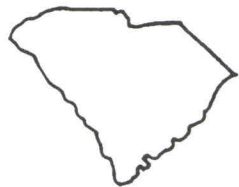
unusual memories.

There are still many people around who have some connection with the WWII B-26 Martin Marauder. A Marauder nationwide Historical Society has been formed with a gala slated for April 18-21 in Baltimore.

Everyone who ever had anything to do with the B-22 is invited to attend.

For more information contact Society president, George Parker, P.O. Box 1051, Columbia, MO 65205

South Carolina Aeronautics Commission Offices are at Columbia Metropolitan Airport. **Mailing Address:** Post Office Drawer 280068, Columbia, South Carolina, 29228. **Phone:** (803) 822-5400, or 1-800-922-0574.



SC Aeronautics Awards Grants to Three Airports

Darlington County Airport, Greenville Downtown Airport and Woodward Field in Camden received funding for projects at the Aeronautics Commission meeting in Columbia on February 15.

The State Aeronautics Commission held their regular monthly meeting and approved \$56,889.50 for airport projects.

When completed, these projects will generate more than \$1 million in total grants when combined with local and federal funding.

Commission Chairman Jim Hamilton announced the following state allocations:

• **Darlington County Airport**-- \$4,712.50 approved to clear trees at the end of runways, remove stumps and undergrowth, then seed the approximately 29 acres involved.

• **Kershaw County Airport**

(Woodward Field)-- \$1,768 approved to install visual approach aids for both runways.

• **Greenville Downtown Airport**-- \$50,409 approved to rehabilitate portion of parallel taxiway to runway 18/36; construct partial parallel taxiway to runway 18; expand east apron; modify taxiway signs and update the Airport Layout Plan (ALP).

Both the Darlington Airport and Woodward Field projects are matched 50-50 with local funds, while the project for Greenville Downtown is awarded 90 percent funding from the Federal Aviation Administration and 5 percent from local and state sources.

The Aeronautics Commission is responsible for fostering the growth of air commerce and acts as a funding agency awarding capital improvement bond grants for airport improvement projects.

FAA Awards \$2.355 million to Owens Field

Siting safety and economic reasons, a major federal grant was awarded to Columbia Owens Downtown Airport recently to fill in a culvert on airport property which runs between railroad track and the runway.

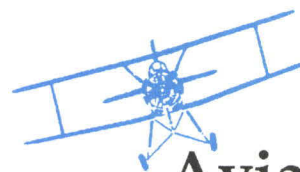
According to a release from Sen. Fritz Hollings office, a \$2.355 million grant from the Federal Aviation Administration will be used to improve safety at the general aviation airport.

Hollings, who is chairman of the Senate Committee of Commerce, Science and Transportation, said, "This badly-needed safety improvement is one of the three

South Carolina priorities our Committee has sited for funding this fiscal year."

"This \$2.355 million grant will be used to close the culvert that runs between the runway and the railroad tracks for nearly the entire runway length. In addition, to providing safer use of Owens Field, it also means more dollars down the road for our Capital City because such improvements help and provide the means for continued economic growth and development."

The \$2.355 million grant was part of the Airport Improvement Program which is handled by the FAA.



Aviation Calendar

March 17

Breakfast Club
Open Date

April 7

Breakfast Club
Aiken Municipal
Aiken, SC

April 7-13

EAA Annual
Sun -n- Fun Fly-In
Lakeland, Florida

April 14

Breakfast Club
Timmonsville Airport
Timmonsville, SC

April 25-28

50th Reunion
Hawthorne School
of Aeronautics
Holiday Inn
Orangeburg, SC
(803) 272-6024

April 28

Breakfast Club
Royal Aviation
Woodward Field
Camden, SC

May 5

Breakfast Club
Jefferson County Airport
Lewisville, GA

May 12

Breakfast Club
Sumter County airport
Sumter, SC

May 19

Breakfast Club
Laurens County Airport

May 26

EAA Chapter 242
May Fly-In
Columbia Owens
Downtown Airport

Aviation Education:

If you have a pilots license, you can play an important part

Aviation education is something that should be on our minds. The Aircraft Owners and Pilots Association estimates that in twenty years, a pilot shortage will occur unless we do something to increase the number of students interested in aviation.

The very future of aeronautics lies in each elementary, middle and high school student, yet there is no standard curriculum in South Carolina which teaches aviation in any of our public schools.

One of the Aeronautics Commission's missions is to foster air transportation and one of the ways is through our educational programs.

Last year, the Aeronautics Commission saw more than 3,000 students, ranging from four-year-old kindergarteners to high school teenagers. Our aviation awareness program is designed to teach students basic principles of flight and introduce them to a new field of study, but most of all to show them flying is fun.

The SCAC program begins in the lobby of the Wilder Facility where students learn the function of the commission and its primary mission of fostering air transportation in the state. After viewing a short videotape on what the Aero-

navics Commission does, the students walk into the hangar facility and learn basic principles of flight.

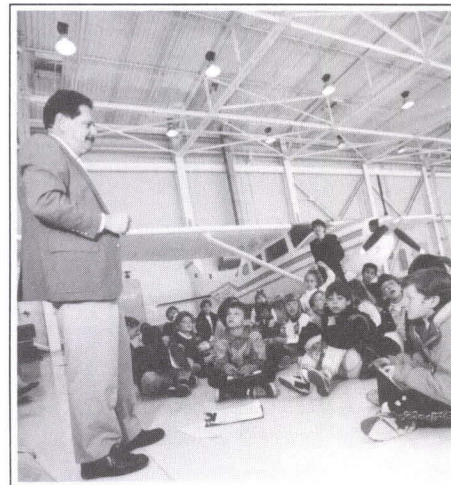
"Children as young as 4-years-old can learn about how airplanes fly and to learn how not to be afraid of flying," said Helen Munnerlyn, SCAC public information director.

In addition, the Aeronautics Commission provides speakers for career days in area schools for those interested in aviation. Pilots are the most requested career, but we also provide aircraft mechanics, airport engineers and aircraft technicians for various career days.

The popularity of these programs is gaining momentum, but every airport in the state, and every aircraft owner can do their part to assist aviation education in a big way.

AOPA has always been on the cutting edge of aviation and knows how a spark of enthusiasm can develop into a burning desire to learn more. AOPA gives these suggestions to aircraft owners and pilots who want to help with education:

- For younger students, take aviation to them. Record a flight from your aircraft on a video recorder and replay it in class. Show them what it feels like to fly.



Pilots, like Joe Saleeby of the Aeronautics Commission, can promote aviation by just answering a few students' questions.

- Take a class, elementary, middle or high school, to see your aircraft. Depending on the age group, explain how your aircraft flies and the four forces of flight, point out the main airplane parts and how an airplane is controlled. Let kids sit in the cockpit briefly and touch controls.

- For older students, get them involved in flight by taking a tour of a local FBO or ground school. Show them the maintenance facility and the nitty-gritty of how aircraft engines work and are repaired.

- For all ages, show them sectional charts and explain how the highways in the sky are used by pilots.

AOPA has a number of free handouts and diagram, and many reasonably priced videotapes to help you prepare your presentations. Just write to them at their Frederick, Maryland address.

The FAA also has many educational materials offered free or for a nominal fee. In one FAA publication Adm. James Busey stated, "Aviation education is an integral

Where to order educational materials:

FAA, Southern Region
Jack Barker, ASO-5
P.O. Box 20636
Atlanta, GA 30320

Cessna Aircraft Company
P.O. Box 7704
Wichita, KS 67277

Beech Aircraft Corp.
P.O. Box 85
Wichita, KS 67201-0085

Aircraft Owners & Pilots Association
421 Aviation Way
Frederick, MD 21701

It's Up in the Air

element of the agency's mission and is essential to carrying out its responsibilities of promoting aviation and flight safety."

Adm. Busey continued, "A key focus during my administration is to stimulate interest in aviation careers among America's young people, in order to provide a steady flow of skilled professionals, especially women and minorities. This will ensure America's continuing preeminence in world aviation."

One national program designed for kindergarten through second grade is the Air Bear Program. It is cosponsored by the FAA, the National Association of State Aviation Officials, the Ninety-Nines and the Illinois Division of Aeronautics. The "Air Bear Goes to School" program sends a costumed Air Bear to class to take students on a make-believe flight to Disneyworld. According to the FAA, the Air Bear program "stimulates an early interest in math and science, introduces exciting career choices for boys and girls and eliminates the fears children often have about flying."

The Aviation Science Instruction program is a series of computer-based instruction modules designed for school systems as a

supplement to the established school curriculum. This series motivates students to study math and science because of their importance to aviation-related subjects and careers. The series includes Navigation and Flight Planning, Principles of Flight and Aviation and the Environment.

Art also plays an important part in aviation development and because of that, the FAA, the National Aeronautic Association and the Federation Aeronautique Internationale in France have joined forces in an annual art contest. The contest helps children from ages 5-16 become familiar with aeronautics and astronautics through art. The 1991 theme is "Modern Explorers of the Air."

The FAA, AOPA, General Aviation Manufacturers Association and the National Air Transportation Association are just a few of the many cosponsors presenting awards during the International Science and Engineering Fair.

Other programs the FAA promotes include the Aviation Career Education Academy, a summer intern program for students interested in aviation, electronics, and air traffic control; the Vintage DC-3 for static display at airshows; the



A single-engine aircraft helps children learn about gravity and aerodynamics upclose.

National Congress on Aviation and Space Education, which is a national teacher workshop focusing on aviation and space; and the Administrator's "Championship" Awards for Excellence in Aviation Education, which are presented to individuals and organizations who have "championed" aviation education.

These are just a few of many programs geared toward getting school-age students involved in aviation. No matter how you want to promote aviation, the best way is through someone who loves to fly.

Enthusiasm is contagious. If you're excited about flying and aviation, chances are the student you teach will be too.



Students learn better when they can touch the concepts they learn in class. In the Aeronautics Commission hangar (left) students learn about how helicopters fly. At right, students get a chance to sit inside.

American Airlines Returns with improved services

Continued from Page 1

unveil. As in Greenville, after a short absence, the airline has moved back to the Charleston airport. The airline will resume three flights daily between Charleston and Raleigh/Durham starting March 2.

"I didn't think we'd be coming back as quickly as we did," said Tim Smith, spokesman with American's corporate headquarters in Fort Worth, Texas. "But we have always been hopeful to return to Charleston. We like the city and the market."

However these were not the only surprises American had in store. On February 12, American announced their return to the Columbia Metropolitan Airport. Daily, there will be three non-stop flights to the airline's Raleigh/Durham hub beginning April 7.

American Airlines originally suspended service to the South Carolina airports to trim rising costs which were a direct result of a labor dispute with pilots across the nation. More than 230 flights were affected nationwide.

SCAC Commissioner Charles Appleby (l) welcomes American Airlines' Dan Heath back to the state, as John Curry of Beaufort County Council looks on.



However, American Airlines spokesman Tim Smith said the airline has a lot of faith in the South Carolina and Columbia markets.

Myrtle Beach and Hilton Head, previously with out any type of American service had flights added. Daily, there will be three non-stop flights between Myrtle Beach and Raleigh/Durham.

In Hilton Head, American Eagle, the regional airline associate of American Airlines, announced beginning May 7, there will be three daily non-stop flights between Hilton Head and Raleigh/Durham International Airport.

"Hilton Head is one of the most desirable resort destinations in the country," says Rick Nelson, vice President-Marketing for American Eagle. "It is a market which is renowned for its beauty, tranquility and its quality of life. We are pleased to be able to serve the community."

The primary reason American has decided to return to South Carolina is the financial situation of Eastern Airlines. The pullout of Eastern left a large market to tap. So, when Eastern's routes became available, American Airlines stepped in to fill some of the gaps.

Breakfast Club Continues Its Tradition

Continued from Page 1

ship dues anyone who attends a breakfast automatically becomes a member.

"This is the best club to join," said club president Gerald Ballard. "There are no dues, no by-laws, just fellowship and socializing. You can come and meet all types of people and see all types of aircraft."

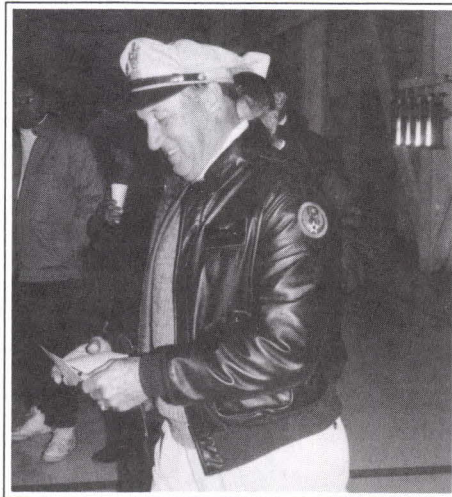
After Ballard presented the "Bouncing Ball Award" to the pilot who made the worst landing, an award was given to the pilot who flew the greatest distance.

Club members listened intently as Charles Bouye read a letter from his son, a pilot in Saudi Arabia. The younger Bouye wrote about one particular flying mission

in which bad weather hampered locating a small runway. He said flying that mission was a lot like flying to the Breakfast Club, when he was tired and the weather was foggy.

That's what the Breakfast Club is all about. Meeting and talking with old and new friends with a common interest. Many members have been coming to meetings for most of the club's fifty years, and many more are finding that this is the club for them.

The Breakfast Club is not all hyped up on formality, it's just primed for hearty handshakes, warm smiles and hot conversations.



Charles Bouye read a letter from his son stationed in Saudi Arabia during a recent Breakfast Club meeting held at SCAC.

FYI From the FAA

Have you got that rhythm? Daily Body Rhythms Play a Part in Air Safety

Daily Body Rhythms, Jet Lag, and Flight Safety

The following provides information to airmen about problems related to fatigue and lowered alertness, conditions that are affected by daily changes in body temperature and wakefulness. Such daily changes are called "circadian rhythms" (Circa, around; dia, day). Suggestions are offered for dealing with these circadian problems.

Body functions are controlled by internal "biological clocks." While the mechanisms of these "clocks" are largely unknown, their effects are familiar to everyone. Waking, sleeping, eating and elimination of wastes are regular everyday human experiences. Most people also note daily periods of alertness and periods of dullness. Such periods are normal and are related to swings of 1 or 2 degrees in body temperature. People are most alert when the body temperature is highest and least alert when the body temperature is at its low point.

For people who sleep at night and work in the daytime, their body's low temperature occurs about 3 to 5 a.m. It is at this time such people are most prone to errors. Studies of airline pilots confirm performance failures and human error accidents are most likely to occur in early morning. Single vehicle truck accidents most often occur in the wee hours of the morning, also.

Jet Lag. High speed, long-range aircraft are now common in general aviation. Crews on such aircraft can be subjected to rapid time zone displacement when traveling in easterly or westerly directions. "Jet Lag," or desynchronization, means travelers' body functions remain on home time and, therefore, do not occur at the same times as those of residents at the destination. For example, a traveler gets sleepy or hungry at inappropriate

times.

Circadian Low. If the traveler stays at a destination long enough, the biological clock will gradually become reset to the new time. This resetting takes place at the rate of about 1 hour per day for each time zone crossed. Thus, if a California pilot flies to New York (three time zones) about three days will be required to functionally adjust to Eastern time. The same readjustment time will be needed by a New York pilot flying to California, though less difficulty would be encountered adjusting to Pacific Time than to Eastern Time. This is because it is easier to

...Most people also note daily periods of alertness and periods of dullness...

stretch the day (east to west flight) than it is to compress the day (west to east). However, in either case a pilot may find it necessary to fly at a time of "Circadian low" and should be aware that error-proneness is greatest at that time. Strict adherence to the practice of using a printed checklist is the main insurance against error. Two heads are better than one—the checklist should be used with one pilot reading the items and the other checking the items; only clearly spoken responses should be accepted. Pilots flying alone should read and respond aloud to all checklist items.

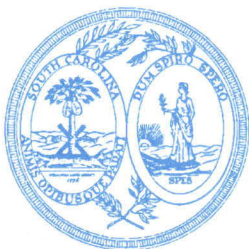
Dealing with circadian problems. Pilots who will not be at the destination long enough to adapt to local time should remain on home time as far as their activities are concerned. In extreme cases this means daytime sleep and breakfast at night; but will, to some extent, prevent fatigue resulting from insomnia. People experiencing jet lag

can force themselves to carry out activities such as going to meetings, shopping, etc., but they cannot force themselves to sleep when they are not sleepy. Tourists lying awake all night and then dragging themselves about sightseeing the next day is a fairly trivial problem; however, such a situation could be a significant problem for a pilot who must be in top form for a flight. In any case, pilots should never utilize sedative drugs—including alcohol—in an attempt to cope with jet lag or insomnia. Likewise, use of stimulants such as amphetamines in an attempt to be "up" at the time of a circadian low should be strictly avoided. Adverse effects such as drug usage far outweigh any alleged benefits. Pilots should remember drug effects can wear off in flight, leaving the pilot in a worse condition than he might be in otherwise.

Air travelers experiencing jet lag who are on scheduled medication should continue to take their medicine on home time, otherwise doses may be either too close together or too far apart, depending on the direction of travel.

Departure times are most commonly selected to provide a desired arrival time. Scheduling meetings, hotel reservations, etc., are examples of these determining factors. Terminal or en-route weather forecasts may have powerful influences on departure times, also. The result may be that a departure or arrival may be scheduled at a time of circadian low when the likelihood of human error is greatest. At such time error of confusion and forgetfulness are most common. "Forcing functions" such as checklist, warning horns, stick shakers, flags and lights are most important in combating reduced alertness levels. Preflight procedures should always include checks to see these safety features are present and operating according to specifications.

Checklists are for Using!!!



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AERONAUTICS COMMISSION**
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This Month...

Inside Palmetto Aviation

- Aviation Programs Take Flight
- American Airlines Returns with Improvements
- Celebrations Planned for Hawthorne School & B-26 Marauders

...and much much more!

General Aviation Accident Rate Falls to 50 year Low

There's good news for those in general aviation. The general aviation aircraft accident rate has dropped to its lowest level in more than 50 years.

Information released by the Air Safety foundation of the AOPA stated the total accident rate fell to 7.01 per 100,000 hours flown in 1990, according to preliminary figures from the National Transportation Safety Board despite an increase in hours flown.

The 2,138 total U.S. general aviation accidents last year reported by the NTSB continued a long term trend — annual accidents peaked at 6,115 in 1967—and are the second lowest total on record. Not since 1938 has there been fewer accidents.

Foundation president Donald Engen, a former NTSB member, attributed the decline in accidents to improved aviation education and pilot training.

"Larger numbers of active pi-

lots are participating in more professional initial and recurrent training; that's the key."

Engen predicted the declining accident rate would continue, "If pilots will continue their trend of more frequent training and upgrading of skills, the accident rate could be cut in half."

More than 35,000 pilots and flight instructors attended Foundation training programs in 1990.

This publication is printed and distributed by the South Carolina Aeronautics Commission in the interest of aviation safety and to foster growth of responsible aviation in the state. The viewpoints expressed in articles credited to specific sources are presented as the viewpoints of those writers and do not necessarily reflect the opinion of the South Carolina Aeronautics Commission.